

SHCHERBININ, B. [M.]

Mechanics, Celestial

Comparison of movements in a plan three-point problem with movements in a corresponding finite problem., Trudy GAISS, 15, no. 2, 1950.

9. MONTHLY LIST OF RUSSIAN ACCESSIONS, Library of Congress, April 1952. Uncl.

ONCHIGOLEV, B.M.

1005
1-1

Stigolev, B. M., and Reznikovskii, P. T. On the application of Runge's method to the numerical solution of the equations of celestial mechanics. *Moskov. Gos. Univ. Soobsh. Astr. Inst. no. 92* (1953), 3-22. (Rus-7/5)

1-F/W

The authors outline the method of Runge for numerical integration of differential equations and work out a number of variants especially useful for starting a table for the types of equations usually met with in celestial mechanics.

R. G. Langebartel (Urbana, Ill.)

SHCHIGOLEV, B.M.

"Probability of discovering eclipsing variables." R.A.Saakian.
Reviewed by B.M.Shchigolev. Per.zvezdy 9 no.5:346-348 Je '54.
(Stars, Variable) (Saakian, R.A.) (MLRA 7:8)

SHCHIGOLEV, B. M.

1900

Stigolev, B. M. ^{GEO} Intermediary orbits in the problem of
three bodies. Moskov. Gos. Univ. Trudy Gos. Astr. ^{GFO} 1 - F/W
Inst. 24 (1954), 59-92. (Russian) ^{MS}
A survey of the various types of approximate orbits for
the three-body problem proposed by D'Alembert, Pois-
son, Gylden, Hill, Clairaut, Laplace, Schmeidler, Moiseev,
and others. ^{we} ^{for} K. G. Langebartel (Urbana, Ill.).

SHCHIGOLEV, B.M.

Differential equations of the first order with a random member.

Trudy GAISH 24:93-108 '54.

(MLRA 9:5)

(Differential equations)

SHCHIGOLEV, B.M.

Approximate calculation of an ephemeris in a limited problem of three bodies. Vest.Mosk.un. Ser.mat.,mekh.,astron.,fiz.,khim. 13 no.5:37-48 '58. (MIRA 12:4)

1. Kafedra nebesnoy mekhaniki i gravimetrii Moskovskogo gosudarstvennogo universiteta.

(Ephemerides)

(Problem of three bodies)

3(1), 16(1)

AUTHOR: Shchigolev, B.M.

SOV/55-58-4-5/31

TITLE: Approximate Calculation of Ephemerides in the Undisturbed Elliptic Motion (Priblizhennoye vychisleniye efemeridy v nevozmushchennom ellipticheskom dvizhenii)

PERIODICAL: Vestnik Mosk. skogo universiteta, Seriya matematika, mekhanika, astronomiya, fizika, khimiya, 1958, Nr 4, pp 45-56 (USSR)

ABSTRACT: The problem of undisturbed motion, i.e. the two-body problem has a rigorous solution on which there bases the calculation of the ephemerides. But the solution is not simple, since there exists no direct combination between coordinates and time. Therefore the author tries to obtain a simpler approximate solution by a partial averaging of the differential equations. Since the linearity of the equations is disturbed by the factor $\frac{1}{r^3}$, the

linearization is carried out by replacing this factor by its mean value. The error of the first approximation, obtained by the author in this way, has the order of the eccentricity. The error of the second approximation has the order of the

Card 1/2

Approximate Calculation of Ephemerides in the
Undisturbed Elliptic Motion

SOV/55-58-4-5/31

square of eccentricity. For the numerical evaluation the
obtained formulas are much simpler than the rigorous
solution.

There are 4 tables, and 2 Soviet references.

ASSOCIATION: Kafedra nebesnoy mekhaniki i gravimetrii (Chair of Celestial
Mechanics and Gravimetry)

SUBMITTED: April 11, 1958

Card 2/2

3(1)

AUTHOR:

Shchigolev, B.M.

SOV/55-58-5-7/34

TITLE:

On the Approximate Calculation of the Ephemerides in the Restricted Three-Body Problem (O priblizhennom vychislenii efemeridy v ogranichennoy zadache trekh tel)

PERIODICAL:

Vestnik Moskovskogo universiteta, Seriya matematiki, mekhaniki, astronomii, fiziki, khimii . 1958, Nr 5, pp 37 - 48 (USSR)

ABSTRACT:

The motion of an asteroid is calculated according to approximation formulas under consideration of the forces of attraction of Sun and Jupiter. The mass of the asteroid is neglected. The motion of Jupiter with regard to the Sun is defined by the table values resulting from the analytic theory of motion of the Jupiter. The approximation values desired are obtained by averaging. The average method of the author, however, differs from the well-known methods of celestial mechanics inasmuch as the author does not average the power function, but certain skillfully chosen parts of the differential equations and thus obtains solvable differential equations.

Card 1/2

7

On the Approximatively Calculation of the Ephemerides SOV/55-58-5-7/34
in the Restricted Three-Body Problem

There are 8 Soviet references.

ASSOCIATION: Kafedra nebesnoy mekhaniki i gravimetrii (Chair of Celestial
Mechanics and Gravimetry)

SUBMITTED: April 4, 1958

Card 2/2

PHASE I BOOK EXPLOITATION

SOV/4778

Shchigolev, Boris Mikhaylovich

Matematicheskaya obrabotka nablyudeniy (Mathematical Processing of Observations)
Moscow, Fizmatgiz, 1960. 344 p. 6,500 copies printed.

Ed.: P.T. Reznikovskiy; Tech. Ed.: S.S. Gavrilov.

PURPOSE: This book is intended for astronomers and students of astronomy in mechanical and mathematical, and physicomathematical departments of universities.

COVERAGE: The book deals with approximate numbers, interpolation, probability theory, random errors of measurements, and the processing of statistical materials. Errors of approximate numbers, errors in arithmetic operations and of functions of approximate arguments are discussed. Chance events, discrete and continuous chance values, the law of large numbers, the processing of point-for-point measurements, the determination of several unknowns from equations by the method of least squares, and empirical formulas are treated. Processing a one-dimensional statistical set and the elementary theory of correlation of two values are also discussed. The author thanks

Card 1/11

SHCHIGOLEV, B.M.

Hill's intermediary orbit in the problem of three bodies. Trudy
GAISH 28:91-119 '60. (MIRA 13:10)
(Problem of three bodies)

SHCHIGOLEV, B.M.

Errors in interpolation due to the rounding-off in the table of
functions. Soob.GAISH no.103:3-18 '60. (MIRA 13:10)
(Interpolation)

SHCHIGOLEV, B.M.

Estimating the error in the sum of approximated numbers. Soob.
GAISH no.103:19-49 '60. (MIRA 13:10)
(Errors, Theory of)

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26517

S/044/61/000/004/032/033

C111/C222

16,6500

AUTHOR: Shchigolev, B.M.

TITLE: On interpolation errors because of roundings in the table of functions

PERIODICAL: Referativnyy zhurnal. Matematika, no. 4, '96, 40.
abstract 4 V 304. ("Soobshch. Gos. astron. ieta im. P.K. Shternberga", 1960, no. 103, 3-19)


TEXT: The author investigates errors of the ordinary and central differences of different order in the interpolation formulas if the errors arise by the use of values of tables containing rounding errors. He gives formulas which express the errors of the differences of m -th order by the errors of the values of tables of the functions. The author gives a summarizing table of the most probable errors calculated under the assumption that the exact errors of the single values of tables are random magnitudes distributed uniformly in the region from $-\epsilon$ to $+\epsilon$; for a comparison the author gives limits of errors calculated with respect to the maximum. The normal law of distribution is used for deriving the error formulas for the estimation of the probable error of ordinary differences of fifth and higher orders and the central

Card 1/2

On interpolation errors because ...

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differences of the order higher than the third one. For differences of second and third order the exact distribution functions of the error are constructed as linear functions of the errors of the values of tables. In the interpolation formulas of Newton, Stirling and Bessel the author determines the maximal and probable errors appearing by the rounding of the values of tables. A comparison of the results of the estimations shows that the formula of Stirling is most suitable in the sense of a small accumulation of the rounding errors.



[Abstracter's note: Complete translation.]

Card 2/2

26157

S/044/61/000/005/020/025

C111/C444

16 4100

AUTHOR:

Shchigolev, B. M.

TITLE:

On the estimation of the error of a sum of approximation numbers

PERIODICAL:

Referativnyy zhurnal, Matematika, no. 5, 1961, 26, 27, abstract 5V79. (Sobshch. Gos. astron. in-ta, im. P. K. Shternberga. 1960, no. 103, 19 - 49)

TEXT:

Methods for the estimation of the error of a sum in case of terms of the same or of different exactness are considered. The error of a sum of two, three and four terms is estimated by probability theoretical methods. If the number of the terms is greater than four, but not great enough in order to apply the theorem of Lyapunov (about 10 to 15 terms), one supposes that the limit error is alike the double quadratic deviation. Recommendations for the case of very many terms are summed up, i. e. if the terms have the same exactness, one supposes the distribution of errors to be normal and the dispersion equal to the dispersion of the sum; if the limit errors of the terms are different, and if a main error does exist, a composition of the normal law with the uniform one is used. At last a summary of the theo-

Card 1/2

On the estimation of the error...

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C/11/0444

rems on the methods for estimation of errors for various numbers of terms is given; a table of the probable limit errors of the sum is added.

(Abstracter's note: Complete translation.)

Card 2/2

S/035/61/000/007/008/021
A001/A101

3.2200

AUTHOR: Shchigolev, B.M.

TITLE: On estimate of the approximate formula error in the problem of unperturbed motion

PERTINENCE: Referativnyi zhurnal. Astronomiya i Gdeziya, no. 7, 1961, 3, abstract 7A56 ("Sobeshch. Gos. astron. in-ta im. P.K. Shermosiga", 1961, no. 114, 3-12)

TEXT: The author considers the method of determining probable estimates of errors in rectangular heliocentric coordinates obtained from the author approximate formulae (PZhizur, 1959, no. 7, 5133). The method is applied to calculating the probable estimates in the restricted three-point problem. There are 5 references.

N. Ya.

[Abstractor's note: Complete translation]

Card 1/1

3-2200

S/124/61/000/011/002/046
D237/D306

AUTHOR: Shchigolev, B.M.

TITLE: On determining error in the approximate formula in
the problem of non-perturbed motion

PERIODICAL: Referativnyy zhurnal, Mekhanika, no. 11, 1961, 11,
abstract 11A93 (Sobshch. Gos. astron. in-ta im. P.K.
Shternberga. 1961, no. 114, 3 - 12)

TEXT: In differential equations of motion in two-body problems,
the radius vector is assumed to be a casual magnitude and is repla-
ced by its mean value. The resulting differential equations deter-
mine a circular motion, approximating to the exact elliptical mo-
tion. Deviation of elliptic motion coordinates from circular motion
coordinates are casual, and formulae are derived for their mean va-
lue and dispersion. 5 references. [Abstractor's note: Complete trans-
lation].

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Card 1/1

38806

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A001/A101

3.9200

AUTHOR: Shchigolev. B. M.

TITLE: On Hill's intermediate orbit in the three-body problem

PERIODICAL: Referativnyy zhurnal. Astronomiya i Geodeziya, no. 6, 1962, 10, abstract 6A86 ("Tr. Gos. astron. in-ta im. P. K. Shternberga", 1960. v. 28. 91-119)

TEXT: The author studies the problem of the plane motion of a material point m in a field whose force function has the form suggested by G. W. Hill:

$$U = \frac{\mu}{r} + \frac{1}{2} \gamma r^2$$

where $r^2 = x^2 + y^2$. $\mu = f(m_0 + m)$. m_0 is the mass of central body, f is gravitational constant. Coefficient γ is determined from the expansion of the force function in the circular three-body problem into a series in Legendre polynomials:

$$\gamma = \frac{fm'}{4a'^3} (1 + b).$$

Here a' is the radius of the circular orbit of a perturbing body m' relative to

Card 1/2

ASTAFOVICH, I.S.; BAKULIN, P.I.; BAKHAEV, A.N.; BRONSHTEIN, V.A.; BLAGOSLAVSKAYA, N.Ya. [deceased]; VASIL'YEV, O.B.; GRISHIN, N.I.; DAGAYEV, M.M.; DUBOVSKIY, K.K. [deceased]; ZAKHAROV, G.P.; ZOTKIN, I.T.; KUMER, Ye.N.; KRIMOV, Ye.L.; KULIKOVSKIY, P.G.; KUNITSKIY, R.V.; KUROCHKIN, N.Ye.; ORLOV, S.V. [deceased]; POPOV, P.I.; PUSHKOV, N.V.; RYBAKOV, A.I.; RYABOV, Yu.A.; SYTINSKAYA, N.N.; TSESEVICH, V.P.; SHCHIGOLEV, S.M.; VORONTSOV-VEL'YAMINOV, B.A., red.; POCHAYEVA, G.A., red.; KRYUCHKOVA, V.N., tekhn. red.

[Astronomical calendar; permanent part] Astronomicheskii kalendar'; postoiannaya chast'. Izd. 5., polnost'iu perer. Otv. red. P.I. Bakulin. Red. kol. V.A. Bronshten i dr. Moskva, Gos. izd-vo fiziko-matem. lit-ry, 1962. 771 p. (MIRA 15:4)

(Astronomy--Yearbooks)

MURINA, G.A.; KHOREVA, B.Ya.; SHCHIGOLEV, N.D.

Formation and activation of metamorphic series in the south-western part of the Pamirs according to geological, petrological, and radiological data. Izv. AN SSSR. Ser. geol. 30 no.8:9-17 Ag '65. (MIRA 18:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy geologicheskii institut, Leningrad.

SECHIGOLEV, P. V.

Electrochemistry

Dissertation: "Investigation of the Process of Electrical Polishing and Its Effect on the Corrosion and Electrochemical Properties of Aluminum." Cand Chem Sci, Inst of Physical Chemistry, Acad Sci USSR, Oct-Dec 1953. (Vestnik Akademii Nauk, Mar 54)

SO: SUM 213, 20 Sept 1954

SHCHIGOLEV, P. V.

USSR/ Scientific Organization - Conference

Card 1/1 : Pub. 124 - 14/24

Authors : Tomashev, N. D., Dr. of Chem. Sc.; and Shchigolev, P. V., Cand. of Chem. Sc.

Title : Scientific conference on corrosion and protection of metals

Periodical : Vest. AN SSSR 9, 73-76, Sep 1954

Abstract : Minutes of scientific conference held at the Institute of Physical Chemistry of the Academy of Sciences USSR at which the problems of corrosion and means of protecting metals against effects of corrosion, were discussed.

Institution : Academy of Sciences, USSR, Institute of Physical Chemistry

Submitted : ...

SHCH 190/cv p.v.

4

22. 2023. Volume - gravimetric method of determining the thickness of oxide films on electropolished aluminum. P. V. Shchegolev (Inst. Phys. Chem., Acad. Sci. U.S.S.R.). *Zavod. Lab.*, 1955, 21 (12), 1474-1476. The method is based on the fact that oxide and other non-metallic films dissolve in 0.3 to 0.5 N NaOH without liberating H, and a measurement of the vol. of H evolved can be related to the amount of metal dissolved. With samples of equal area, attack in the solution is allowed to proceed until similar vol. of H are obtained. With samples of different areas, similar vol. per unit area are used. The samples are weighed before and after treatment with NaOH. Electropolished and mechanically polished samples are compared. The difference between the loss in wt. in the two cases equals the wt. of the oxide film.

G. S. SMITH

PM *[signature]*

*The Corrosion and Electrochemical Behaviour of Electro-polished Aluminium, I. L. Rozenfel'd and P. V. Shchigolev (*Zhur. Fiz. Khim.*, 1955, 29, (4), 668-670). [In Russian]. In soln. of 0.5N-Na₂SO₄ and 0.5N-NaCl, Al is anodic in contact with Cu and stainless steel, but cathodic in contact with Zn and Mg. Owing to the presence of a uniform and coherent oxide surface film $\sim 0.16 \mu$ thick, it offers resistance to corrosion especially in 0.5N-Na₂SO₄ soln. In 0.5N-NaCl soln., however, the corrosion rate is unaffected by the film. In contact with Zn the corrosion rate is low at first, but the initial cathodic 'protection' disappears as the Zn becomes covered with insoluble carbonates, and thus diminishes its effective area. In contact with Mg the corrosion rate in the above-mentioned electrolytes is very high owing to speedy destruction of the protective oxide film on Al surfaces because of strong cathode polarization. - A. W.

Shchegolev, P. V.

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*The Influence of Electropolishing on the Physico-Chemical Properties of the Surface of Pure Aluminium. P. V. Shchegolev (Zhur. Fiz. Khim., 1956, 29, (4), 682-684). [In Russian]. Electropolished metals generally exhibit several phys.-chem. properties such as reduced coeff. of friction, increased capacity for cold working, increased magnetic permeability (in some ferromagnetic metals) and reduced susceptibility to "cold emissivity". S. shows that electropolishing increases the coeff. of reflectivity of light by ~12-15%. Examination of the electropolished surface of Al revealed the presence of a cellular structure causing "microroughness". This is attributed to non-uniform dissolution. Electropolishing significantly increases the elect. resistivity of the surface of Al, and the potential necessary to puncture the electropolished film is ~25 times that required to break through a natural film. On the surface of electropolished Al X-ray analysis revealed new lines corresponding to some unknown modification of Al_2O_3 . A. W.

Shchigolev, P. V.
USSR/Engineering - Surface treatment

Card 1/2 Pub. 22 - 34/52

Authors : Shchigolev, P. V., and Tomashov, N. D.

Title : Metal electro-polishing method

Periodical : Dok. AN SSSR 100/2, 327-330, Jan 11, 1955

Abstract : The process of anodic solution of Ni, Cu, stainless steel, Zn and Al was investigated in electrolytes which are being recommended for the polishing of the very same metals. It was observed that the electro-polishing process is immediately followed by an intensive anodic polarization which lead to the derivation of potential values at which the reaction of the anodic oxidation of the metal and the anion discharge plus the formation of gaseous oxygen become possible.

Institution : Academy of Sciences USSR, Institute of Physical Chemistry

Presented by : Academician P. A. Rebinder, July 23, 1954

Periodical : Dok. AN SSSR 100/2, 327-330, Jan 11, 1955

Card 2/2 Pub. 22 - 34/52

Abstract : The effect of passivation of surface roughnesses during electro-polishing on the quality of the treated metal is emphasized. Fourteen references: 6 USSR, 5 USA, 2 French and 2 German (1935-1953). Graphs; drawing.

SHCHIGOLEV, P. V.
USSR/ Chemistry - Physical Chemistry

Card 1/1 Pub. 22 - 26/54

Authors : Shchigolev, P. V., Akimov, G. V. Memb. Corresp. of Acad. of Sc. USSR

Title : Electrochemical structure of the surface of electro-polished aluminum

Periodical : Dok. AN SSSR 100/3, 499-502, Jan 21, 1955

Abstract : Experiments were conducted to determine the electrochemically active parts and their separation into anodic and cathodic on the surfaces of mechanically and electrolytically polished aluminum. The electrolytically and mechanically polished Al samples were subjected to cathodic polarization in a 1 n CuSO_4 solution at a current density of 5 ma/cm² with Cu acting in the role of an anode. It was established that the number of electrochemically active parts on the surface of electropolished aluminum is approximately 30 times lower than on mechanically polished aluminum. Electropolishing was found to shrink the total area of electrochemically active parts on the surface of aluminum. Two USSR references (1950-1952), Graphs, illustration.

Institution : Academy of Sciences USSR, Institute of Physical Chemistry

Submitted : July 23, 1954

PALKOLOG, Ye.N., kandidat khimicheskikh nauk, redaktor; ROZENFEL'D, I.L., doktor khimicheskikh nauk, redaktor; TYUKINA, M.N., kandidat khimicheskikh nauk, redaktor; TOMASHOV, N.D., professor doktor khimicheskikh nauk, redaktor; SHCHIGOLEV, P.V., kandidat khimicheskikh nauk, redaktor; BABICH, L.V., redaktor izdatel'stva; MAKUNI, Ye.V., tekhredaktor

[Problems of corrosion and the protection of metals; proceedings of the conference] Problemy korrozii i zashchity metallov; trudy soveshchaniia. Moskva, Izd-vo Akademii nauk SSSR, 1956. 270 p. (MLRA 9:8)

1. Vsesoyuznoye soveshchaniye po korrozii i zashchite metallov. 5th, Moscow, 1954.
(Corrosion and anticorrosives)

SHCHIGOLEV, P. V.

Distr: [E2c/4E4]
 18 *Corrosion-Resistant and Electrochemical Properties of Electro-
 polished Aluminum/ P. V. Shchigolev (*Problems in the Corrosion
 and Protection of Metals (Acad. Sci. U.S.S.R.), 1956, 227-236*).—
 [In Russian]. Further oxidation of electropolished Al in air at
 high temp. does not occur because of the existence of the compact
 film of oxide (thickness 1500-1700 Å.). The reflectivity of the
 electropolished Al does not change considerably after heating for
 5 hr. at 600° C. On mech. polished Al the thickness of the oxide
 film increases with temp., and the coeff. of reflectivity decreases
 under the same conditions by ~10%. The wt. of the anodic
 film decreases on heating because of dehydration. The degree
 of hydration of the anodic layer obtained on the surface of
 electropolished Al is equal to 3-4%, and of mech. polished Al
 to 4-5%. Electropolishing and subsequent anodizing produce a
 matt surface with reflectivity stable to temp. The corrosion-
 resistance of electropolished Al is 2-3 times higher than that of
 mech. polished Al because of the removal on electropolishing of the
 deformed surface layer, and its replacement by a more homo-
 geneous and stable oxide film. Anodizing of the electropolished
 Al produces a thicker but more porous oxide film. Electro-
 polished or anodized surfaces are not resistant to oxidizing media
 such as 0.5N-NaCl + 0.1% H₂O₂, but even under such conditions
 the electropolished surface was found to be more resistant than the
 anodized, for it retains the reflectivity and does not break up so
 easily. 20 ref.—A. W.

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USSR/Corrosion - Protection From Corrosion.

J.

Abs Jour : Referat Zhur - Khimiya, No 4, 1957, 14087

Author : Tomashov N.D., Shchigolev P.V.

Inst : Academy of Sciences USSR

Title : Problems of Underground Corrosion (All-Union
Conference in Moscow)

Orig Pub : Vestn. AN SSSR, 1956, No 8, 108-110

Abstract : No abstract.

Card 1/1

- 1 -

PHASE I BOOK EXPLOITATION

344

Shchigolev, Petr Vasil'yevich, Candidate of Chemical Sciences.

Khimicheskaya polirovka metallov; stenogramma lektsii (Chemical Polishing of Metals; Stenographic Transcription of a Lecture) Moscow, 1957. 24 p. 5,000 copies printed.

Sponsoring agencies: Obshchestvo po rasprostraneniyu politicheskikh i nauchnykh znaniy RSFSR, and the Moskovskiy dom nauchno-tekhnicheskoy propagandy im. F. E. Dzerzhinskogo.

Ed.: Bakhvalov, G. T.; Tech. Ed.: Sukhareva, R. A.

PURPOSE: The book is intended for readers interested in the treatment of metals on an elementary level.

COVERAGE: The book is a popular survey of recent work conducted in non-Soviet countries on chemical polishing of metals, namely: aluminum, copper, nickel, iron, cadmium, zinc, silver, lead, magnesium, zirconium, beryllium, germanium, and tantalum. The author refers to U. S. and Japanese patents as sources giving the composition of various electrolytes used in chemical polishing. However, in no case are the patents identified by number, inventor, or title. A detailed description is given of the

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Chemical Polishing of Metals; Stenographic Transcription of a Lecture

"Alupol" and "Erftwerk" polishing methods used in the manufacture of aluminum reflectors. Fig. 1, p. 8, shows the relationship of the thickness of the removed aluminum (99.99 %) layer to temperature and treating time in the "Erftwerk" bath. Fig. 2, p. 8, shows the relationship of the coefficient of light reflection by aluminum to its purity. Fig. 3, p. 9, illustrates the relationship of the coefficient of light reflection by Al-Mg alloys to the purity of the initial aluminum, the Mg-content, and the thickness of the anodic film. Fig. 4, p. 9, illustrates the effect of the thickness of the anodic film on the reflecting power of Al (99.99%) chemically polished in the "Alupol IV" and "Alupol V" baths. Fig. 5, p.10, shows the effect of the degree of purity of initial Al, the Fe-content, and the thickness of the anodic film on the coefficient of light reflection by Al-Mg alloys (for the "Erftwerk" bath). Coefficients of light reflection by Al and its alloys after 5-min. treating time in the bath: H_3PO_4 , ($d=1.75$), 700 cc; HNO_3 ($d=1.41$) -- 100 cc; citric acid ($\text{C}_6\text{H}_8\text{O}_7$), 200 g, at bath temperature of 85°C are compiled in Table 1, p.10. Best results were obtained by using pure Al (99.99%). Fig. 6, p. 11, shows the relationship of the reflecting power of different metallic surfaces to the wavelength of incident light. Fig. 7, p.12, shows variations of the reflecting power of different metallic surfaces in relation to the testing time under atmospheric conditions. Fig. 8, p. 13 shows the relationship of various metallic surfaces to heating temperature. Fig. 9, p. 15, shows the relationship of the rate of solution

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Chemical Polishing of Metals; Stenographic Transcription of a Lecture

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of JI 63 brass to the H_2O -content of the bath: 10 vol.% HNO_3 ($d=1.5$); 60 vol.% H_3PO_4 ($d=1.75$); 30 vol.% $(CH_3COO)_2$. (Bath temperature: $20^\circ C$; treating time: 10 min.) Fig. 10, p.16, shows the relationship of the H_2O -content of the bath to the quantity of nitrous acid (HNO_2) formed during the chemical polishing of brass. (Bath composition: 10 vol.% HNO_3 , $d=1.5$; 60 vol.% H_3PO_4 , $d=1.75$; 30 vol.% $(CH_3COO)_2$; treating time: 10 min.; temperature: $20^\circ C$; surface of the brass sample: 20 cm^2 .) Fig. 11, p.16 illustrates variations in the viscosity of the bath in relation to the quantity of dissolved brass. (Composition of the bath: 15 vol.% HNO_3 ; 55 vol.% H_3PO_4 ; 30 vol.% H_2O . Bath temperature: $20^\circ C$.) Fig. 12, p.17, shows the variations in electric conductivity of the bath in relation to its H_2O -content. (Composition of the bath: 10 vol.% HNO_3 , $d=1.48$; 60 vol.% H_3PO_4 ; $d=1.75$; 30 vol.% $(CH_3COO)_2$. Bath temperature: $25^\circ C$.) Fig. 13, p.17, shows variations in the rate of solution of

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J] 63 brass in relation to treatment time and bath composition. Table 2, p. 18, shows the composition of baths used in chemical polishing of copper and its alloys (brass, nickel silver, and bronze. Fig. 14, p.20, shows the rate of solution of steels in relationship to treating time. Fig. 15, p. 24, shows the rate of solution of Zr in relation to the bath temperature. The chemical polishing of Cu and its alloys, and of Ni, Fe and steel, Cd, Zn, Ag, Pb, Mg, Zr, Be, Ge, Ta is discussed briefly but adequately. Bath composition, treating time, and bath temperature are given though no references to the sources are made. There are 15 figures, 2 tables, no references.

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Chemical Polishing of Metals; Stenographic Transcription of a Lecture

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General Remarks

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AVAILABLE: Library of Congress (TS213.S43)

SGM/bmd
6-3-58

Card 6/6

SHCHIGOLEV, P. V.

2
4E22

✓ Electrochemical methods of decorative treatment of surfaces of aluminum articles. P. V. Shchigolev. *Zhur. Priklad. Khim.* 30, 882-7 (1957). Processes of electropolishing, chem. polishing, anodizing, and coloring of anodic films of tech. Al were investigated. The best conditions for electropolishing were: an electrolyte contg. H_2SO_4 34, H_3PO_4 34, CrO_3 8.6, H_2O 28.4%; an anode c.d. of 20-30 amp./sq. dm. (10-15 v.) for 2-6 min. at 80-90° with a Pb cathode. This method was also satisfactory for alloys (AMG) contg. 0.5-5.0% Mg. For pure Al, Pullen's alkali method (C.A. 30, 7480) was satisfactory. Chem. polishing by the method of Schmid and Spahn (C.A. 48, 13590a, 49, 2980h) gave good results. Anodizing of electropolished Al, for decorative purposes, was satisfactory in 20% H_2SO_4 with a c.d. (a.c.) of 2 amp./sq. dm. for 20-30 min. at 18-20°. Films of different thickness were obtained by changing the c.d. or the duration. Films obtained with a.c. had a higher adsorptive capacity than those obtained with d.c. Several known methods of coloring anodized films were discussed. One recommended consisted of a soln. contg. 1 g. mordant yellow with 0.14-0.3 g. of Alizarin Red C (or Alizarin Orange P)/l. of H_2O for 8-10 min. at 70-80°.

I. Bencowitz

MT

TOMASHOV, N.D., prof., doktor khim. nauk, otvetstvennyy red.; YERSHOV, I.M.,
kand. tekhn. nauk, red.; LUNEV, A.F., kand. khim. nauk, red.;
MIKHAYLOVSKIY, Yu.N., kand. khim. nauk, red.; STRIZHEVSKIY, I.V.,
kand. tekhn. nauk, red.; SHCHIGOLEV, P.V., kand. khim. nauk, red.;
BANKVITSER, A.L., red. izd-va; KASHINA, P.S., tekhn. red.

[Theory and practice of corrosion protection for underground
installations; papers of the Sixth All-Union Conference on
Corrosion and Protection of Metals] Teoriia i praktika protivo-
korroziionnoi zashchity podzemnykh sooruzhenii; trudy VI Vsesoiuz-
nogo soveshchaniia po korrosii i zashchite metallov. Moskva, Izd-
vo Akad. nauk SSSR, 1958. 273 p. (MIRA 11:10)

1. Vsesoyuznoye soveshchaniye po teorii i praktike protivokor-
roziionnoy zashchity podzemnykh sooruzheniy. 6th, 1956.
(Electrolytic corrosion)

5(+)

PHASE I BOOL. EXPLOITATION

SOV/2807

Shchigolev, Petr Vasil'yevich

Elektroliticheskoye i khimicheskoye polirovaniye metallov (Electrolytic and Chemical Polishing of Metals) Moscow, AN SSSR, 1959. 186 p.
Errata slip inserted. 5,000 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Institut fizicheskoy khimii.

Resp. Ed.: I.L. Rozenfel'd, Doctor of Chemical Sciences, Professor;
Ed. of Publishing House: N.G. Yegorov; Tech. Ed.: Yu. V. Rykina.

PURPOSE: This book is intended for chemists, chemical engineers, and metallurgists.

COVERAGE: This book covers the general principles of electrolytic polishing of metals. The mechanical, optical, magnetic, electrical, and electrochemical properties of the metal under treatment are discussed. Chemical polishing of metals is also dealt with. The Appendix describes the composition of various electrolytes. No personalities are mentioned. There are 258 references: 116 English, 72 Soviet, 46 German, 18 French, and 6 Japanese.

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Electrolytic and Chemical Polishing of Metals

SOV/2807

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Card 4/5

SHCHIGOLEV P.V.

TOMASHOV, Nikon Danilovich. Prinimali uchastiye: TYUKINA, M.N.; PALEOLOG, Ye.N.; CHERNOVA, G.P.; MIKHAYLOVSKIY, Yu.N.; LUNEV, A.F.; TIMO-NOVA, M.A.; MODESTOVA, V.N.; MATVEYEVA, T.V.; BYALOBZHESKIY, A.V.; ZHUK, N.P.; SHREYDER, A.V.; TITOV, V.A.; VEDENEYEVA, M.A.; LOKO- TILOV, A.A.; BERUKSHTIS, G.K.; DERYAGINA, O.G.; FEDOTOVA, A.Z.; FOKIN, M.N.; MIROLYUBOV, Ye.N.; ISAYEV, N.I.; AL'TOVSKIY, R.M.; SHCHIGOLEV, P.V.. YEGOROV, N.G., red.izd-va; KUZ'MIN, I.F., tekhn.red.

[Theory of the corrosion and the protection of metals] Teoriya korrozii i zashchity metallov. Moskva, Izd-vo Akad.nauk SSSR, 1959. 591 p. (MIRA 13:1)

(Corrosion and anticorrosives)

L 00344-66 EMT(m)/EMP(i)/EMP(t)/EMP(b) IJP(c) JD
 UR/0364/65/001/009/1077/1083
 ACCESSION NR: AP5022145 541.135.52.92-183

AUTHOR: Shchigolev, P. V.; Safonova, Z. B.

TITLE: Electrolytic polishing of silicon

SOURCE: Elektrokhimiya, v. 1, no. 9, 1965, 1077-1083

TOPIC TAGS: electrolytic polishing, silicon hydrofluoric acid, acetic acid

ABSTRACT: Optimum conditions and optimum composition of the electrolyte for electrolytic polishing of p-silicon was studied. After mechanical and electrolytic polishing the quality of the surface of samples was determined visually from the magnitude of the coefficient of relative reflection of light and from the magnitude of roughness, determined by means of an interferometric microscope. A silver mirror was used as a standard taking its coefficient of reflectance as 100%. Electrolytic polishing of Si was conducted in a circular rotating plastic bath. Electrode potentials and anodic polarization curves were also obtained. The investigation of HF electrolyte from 1 to 20% produced the best Si surface when its concentration was 2.5-5 wt. % and the current density was 300-600 ma/cm². The results, however, were not always reproducible. Multiple experiments with a HF+CH₃COOH+H₂O system produced

Card 1/2

L 00344-66

ACCESSION NR: AP5022145

high quality results when the ratio of components by volume was 0.05:0.05:0.9 respectively. The conditions for electrolytic polishing were: 250-350 ma/cm², t = 22°C, time--20 to 30 min, the rate of rotation of the bath--80 rpm. In this electrolyte the polish was of better quality than by the use of HF alone. Through the electrochemical study the electrolytic polishing mechanism of Si was established. At optimum composition of the electrolyte and electrolytic polishing conditions silicon passes into solution primarily through an intermediate stage of the electrochemical formation of SiO which is chemically dissolved by HF at the same rate as it is formed. Thus, a steady state is established at which the rate of the above processes is the same. Only under these conditions electrolytic polishing can be achieved and local anodic etching or complete passivity eliminated. Orig. art. has: 6 figures.

ASSOCIATION: none

SUBMITTED: 26Jan65

NO REF SOV: 005

ENCL: 00

SUB CODE: MM

OTHER: 007

Card 2/2

SHCHIGOLOV, A.A., otv. red.

[Seasonal development of nature in the central provinces of the European part of the R.S.F.S.R. in 1960] Sezonnoe razvitiye prirody tsentral'nykh oblastei Evropeiskoi territorii RSFSR 1960 g. Leningrad, 1962. 53 p. (MIRA 16:11)

1. Geograficheskoye obshchestvo SSSR. Moskovskiy filial. Fenologicheskaya komissiya.

(Phenology)

SHCHIKH, M.V., kand. tekhn. nauk.

Natural vibrations of pressure regulators. Trudy LVMI no.6:249-260
'57. (MIRA 11:5)

(Pressure regulators--Vibration)

SHCHIKHIR, A. G.

30181

Shchikhir, M. G. i pyetrova, K. ya. Tormozhyeniye ispariyeniya
zhidkostyey. Zhurnal prikl. Khimii, 1949, No. 9, c. 947-51

SO: LETOPIS' NO. 34

SHCHIKLIN, I.

Establishing norms for the number of designers. Sots. trud 8
no.7:113-119 J1 '63. (MIRA 16:10)

SHCHIKLIN, I.A.; GARKAVENKO, P.F., inzhener, retsenzent; TITKOV, B.S.,
redaktor; RUDENSKIY, Ya., tekhnicheskii redaktor.

[Accelerating the turnover of liquid assets; work practice of
machine-building factories] Uskorenie oborachivaemosti oborotnykh
sredstv; opyt mashinostroitel'nykh zavodov. Kiev, Gos. nauchno-tekhn.
izd-vo mashinostroit.i sudostroit. lit-ry, 1953. 66 p. (MLRA 7:8)
(Machinery industry--Accounting)

SHCHIKLIN, I.A.

Specifying the classification of the composition of working time
in establishing technical norms. Nauch.zap.Od.politekh.inst.
26:76.86 '60. (MIRA 15:5)
(Time study)

SHCHIKOTA, M.M.

Nurses' councils. Med. sestra no.5:61-62 My '61. (MIRA 14:6)

1. Predsedatel' Soveta meditsinskikh sester sanatoriya "Yevpatoriya".
(YEVPARATORIYA---NURSES AND NURSING)

VAGANOV, I.P.; SHCHIPACHEVA, N.M.

Large gauge blocks. Izv. tekhn. no.8:15-16 Ag '63.
(MIRA 16:10)

SHCHIPAKIN, I.S., burovoy master

The 7.5-inch turbodrill is better than the 8-inch one. Neftianik
5 no. 12:15 D '60. (MIRA 13:12)

1. Zhirnovskaya kontora bureniya.
(Turbodrills)

SHCHILAREV, S.A.; NOVIKOV, G.I.; SUVOROV, A.V.

Feasibility of applying the Lambert-Beer law to the study of
gaseous systems in a wide temperature range. Report No.1.
Zhur. neorg. khim. 1 no. 11:2433-2439 N '56. (MLRA 10:5)
(Gases--Spectra) (Vapors--Spectra)

SHCHIL'NIKOV, S.I.; IGNATENKO, G.F.; PLINER, Yu.L.; IGNAT'YEV, V.S.;
LAPPO, S.I.

Technology of aluminothermic smelting of metallic chromium
in an electric arc furnace. Izv. vys. ucheb. zav.; chern. met.
5 no.5:78-85 '62. (MIRA 15:6)

1. Ural'skiy politekhnicheskiy institut.
(Chromium---Electrometallurgy)
(Aluminothermy)

PANASYUK, I.O., kand. tekhn. nauk; STROYEV, A.S., kand. tekhn. nauk,
retsenzent; SHCHIL'TSEV, A.N., red.; ARTAMONOVA, V.S.,
tekhn. red.

[Chromium and its alloys; review of foreign and some Russian
publications issued during 1950-1960] Khrom i ego splavy; obzor
zarubezhnoi i nekotatoi otechestvennoi literatury za 1950-
1960 gg. [n.p.] 1961. 39 p. (MIRA 15:12)

1. Moscow. Vsesoyuznyy nauchno-issledovatel'skiy institut
aviatsionnykh materialov.

(Bibliography--Chromium)

SHCHERBOV, G. Ye.

"Rings of Type 3 on a Segment and on a Periphery," Dok. AN, 66, No. 6, 1949.

LEONIDOV, L. .

42-02. LEONIDOV, L. .-- K voprosu o roli rassseyaniya sveta v atmosfere venedy.
Meyer. Izv. Leningradsk. Gos. Un-ta im. Gorkogo, t. XXVIII. Publikatsii
astron. Observatorii, t. VIII, 1966, s. 79-90--Bibliogr: 6 nazv.

30: Letopis' Zhurnal'nykh Statey, Vol. 47, 1968

SHCHINNIKOVA, T., voditel' tramvaya (Omsk)

How I drive streetcars. Zhil.-kom.khoz. 10 no.1:15-16
'60. (MIRA 13:5)

(Omsk--Streetcars)

~~Sheh~~
 SHEHINNIKOVA, T. M.

Viscosity of starch preparations in aqueous and alkaline solutions. M. I. Knyaginichev and T. M. Shehinnikova (Technol. Inst. Food Ind., Leningrad). *Kolloid. Zhur.* 18, 38-43(1956).—The viscosity η of potato starch gelatinized in the usual way was not reproducible. A reproducible η was obtained by wetting 0.3 g. starch with 4 ml. H_2O , mixing with 50 ml. boiling H_2O , cooking for 5 min., diluting with warm H_2O to 100 ml. and shaking for 15 min. at 6 oscillations/min. The η of the resulting liquid at 20° was 2.7-3.9 times that of H_2O , depending on the origin of starch; the starch of *Solanum andigenum* had the highest η . Reproducible η was obtained also by treating starch with *N* NaOH at room temp.; the η was a little lower than η in H_2O ; higher and lower concns. of NaOH did not yield homogeneous starch solns.

J. J. Bikerman

20440
S/115/61/000/003/003/013
B124/B204

26.2194

AUTHORS: Dolgachev, V. S. and Shchinyavskiy, V. A.

TITLE: An electromagnetic vibration meter

PERIODICAL: Izmeritel'naya tekhnika, no. 3, 1961, 15


TEXT: The suggested vibration meter serves for determining the magnitude of the vibrations of two coupled revolving parts. In particular, the vibration meter permits to uniquely determine rotary vibrations of a driving wheel with respect to the camshaft to which it is attached. The operation of the vibration meter is based on the variation of the magnetic flux in proportion to the variation with respect to the position of the shaft and driving wheel in their sideward clearance and the e.m.f. induced in the coils of the donor. The main part of the vibration donor (cf. Fig.) consists in the electromagnets 1 which are attached to the flange 2. The diameter of the wires on the coils is only 0.03 - 0.05 mm thus making it possible to employ a high number of windings in small coils and increasing the sensitivity of the donor. The vibration donor is fixed by the screws 3 to the split ring 4 which is mounted to the shaft 5 by means of a tenter

Card 1/3

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S/115/61/000/003/003/013
B124/B204

An electromagnetic...

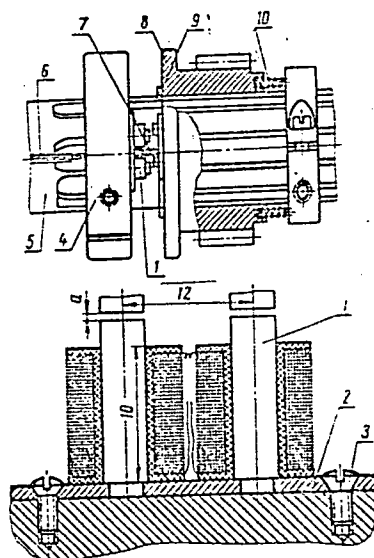
screw. The ends of the windings are connected over a slit and the groove 6 in the shaft to the contact rings which are fixed to an ebonite ring rigidly connected to the end of the shaft. The e.m.f. pulses are collected by the contact rings of the current collector and fed into a loop oscilloscope. The specially shaped wire magnet 7 is attached to the driving wheel 8. The sideward clearance a in the wire magnet is determined by the fixation of the ring 4. The clearance is 0.3 - 0.5 mm. The position of the driving wheel is adjusted by means of the setting ring 9 and of six (or three) distance springs 10. Instead of the setting ring 9, an ordinary distance ring may be used. By means of the vibration donor one may determine not only the presence of clearance and a lost motion, but also their amount. For this purpose, a coupling with known clearance and the calibration curve of the vibrations must be investigated for the same parameters. There is 1 figure.



Card 2/3

An electromagnetic...

20110
S/115/61/000/003/003/013
3124/3204



Card 3/3

ACC NR: AP7005596 (Av) SOURCE CODE: UR/0413/67/000/002/0023/0023

INVENTOR: Polak, L. S.; Shchipachev, V. S.

ORG: none

TITLE: Thermal method of obtaining nitrogen oxides. Class 12, No. 190354
[announced by the Institute of Petrochemical Synthesis im. A. V. Topchiyev
(Institut neftekhimicheskogo sinteza)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 2, 1967, 23

TOPIC TAGS: nitrogen oxide, oxygen, chemical stabilization, nitrose gas

ABSTRACT: This Author Certificate introduces a thermal method of obtaining nitrogen oxides from an air or an air-oxygen mixture with a subsequent stabilization of oxides. To reduce the energy consumption, the stabilization of oxides is carried out by an intensive mixing of combustible nitrose gases with the recycling cooled nitrose gases. [Translation of patent abstract] [NT]

SUB CODE: 07,11/SUBM DATE: 04Jul64/

Card 1/1

SHCHIFACHEV, V.S.

Research in the field of low-temperature plasma; international
symposium in Moscow. Vest. AN SSSR 35 no.10:96-98 0 '65.

(MIRA 18:10)

L 16069-66 EWT(1)/ETC(f)/EPF(n)-2/EWG(m) IJP(c) GS/AT
ACC NR: AT6004495 SOURCE CODE: UR/0000/65/000/000/0233/0237
AUTHOR: Aksenov, V. P.; Blinov, L. M.; Marin, V. P.; Polak, L. S.; Shchipachev, V. S.
ORG: none
TITLE: ^{21,44,55} An ultra-high frequency plasma generator and some of its possible applications in chemistry
SOURCE: AN SSSR. Institut neftekhimicheskogo sinteza. Kinetika i termodinamika khimicheskikh reaktsiy v nizkotemperaturnoy plazme (Kinetics and thermodynamics of chemical reactions in low-temperature plasma). Moscow, Izd-vo Nauka, 1965, 233-237
TOPIC TAGS: high energy plasma, plasma device, plasma generator, nitric oxide, plasma chemistry, UHF, plasma diagnostics, luminescence, spectrographic analysis
ABSTRACT: It is indicated that UHF plasma discharge at above atmospheric pressures may become an important tool in chemical technology since it permits carrying out chemical reactions at lower temperatures and pressures than would be necessary in the case of the corresponding catalytic processes. The UHF plasma generator set-up is shown in fig. 1. The basic advantage of the UHF plasma generator, from the
Card 1/2

88
84
B+1

L 16069-66

ACC NR: AT6004495

2

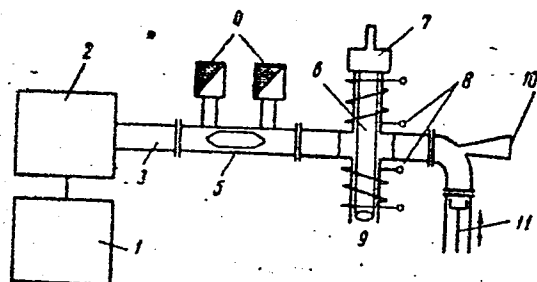


Fig. 1. 1--modulator; 2--magnetron; 3--wave guide $72 \times 34 \text{ mm}^2$; 4--calorimetric power (load) meters; 5--ferrite circulator; 6--discharge tube; 7--point of tangential air inlet; 8--selenoid; 9--point of introduction of gases; 10--plasma diagnostic observation window; 11--adjustible plunger.

standpoint of chemical technology, is the possibility of controlling the reaction temperature in a wide range, thus affecting both reaction rate and chemical equilibrium. The plasma temperature can be measured optically with great accuracy by means of an ICP-28¹⁰ spectrograph¹⁰ located perpendicular to the plasma motion axis. Plasma luminescence intensity is measured at a distance of 5 cm from the plasma active discharge zone. The dependence of the nitric oxide yield generated from air in the UHF plasma unit at 0.8 megawatt pulse power and air flow rate of 8 l/min is graphed. Orig. art. has: 2 figures.

SUB CODE: 07,20/

SUBM DATE: 08Jul65/

ORIG REF: 003/

OTH REF: 001

Card 2/2

ACC NR: AF6022896

SOURCE CODE: UR/0081/66/000/005/I012/I012

AUTHOR: Aksenov, V. P.; Elinov, L. M.; Marin, V. P.; Polak, L. S.; Shchibachev, V. S.

TITLE: SHF plasmatron and some possible areas of its application in chemistry

SOURCE: Ref. zh. Khimiya, Part II, Abs. 5I101

REF SOURCE: Sb. Kinematika i termodinamika khim. reaktsiy v nizkotemperaturn. plazme, M., Nauka, 1965, 233-237

TOPIC TAGS: plasmatron, SHF, chemical synthesis, ionizing radiation *irradiate*

ABSTRACT: It is shown that by using the ionizing effect of SHF radiation one can carry out the following processes: synthesis of ammonia; recovery of nitrogen oxides from air (in the production of nitric acid); synthesis of hydrochloric acid, hydrocyanic acid; recovery of sulfur from hydrogen sulfide and flue gases; petroleum cracking; preparation of acetylene from methane; production of alcohols; chlorination, nitration, hydroxylation, carboxylation reactions; synthesis of benzene, biphenyl, phenol; polymerization of ethylene into polyethylene; preparation of pyroceramics; preparation of ultrapure films and metals. A diagram of the pulsed SHF device is given, and certain characteristics of the SHF discharge are described. Results of measurements of the temperatures and concentrations of electrons and ions in the SHF discharge and of preliminary experiments on the formation of nitrogen oxides in the SHF plasmatron are given. G. L. [Translation of abstract]

SUB CODE: 07
Cord 1/1

LUTKOV, A.N.; PANIN, V.A.; PANINA, Ye.B.; KARTASHEVA, Z.P.;
SHCHIPACHEVA, E.N.

Polyploid sugar beets. Priroda 52 no.11:59-61 '63.

(MIRA 17:1)

1. Institut tsitologii i genetiki Sibirskogo otdeleniya AN
SSSR, Novosibirsk.

MUKHIN, M.V., professor; SHCHIPACHEVA, V.I., mladshiy nauchnyy
sotrudnik.

Use of plastic in restorative surgery of the face; experimental
and clinical findings. Stomatologiya no.5:26-28 '53. (MLRA 7:1)

1. Iz Sverdlovskogo instituta vosstanovitel'noy khirurgii,
travmatologii i ortopedii (direktor, nauchnyy rukovoditel' -
chlen-korrespondent Akademii meditsinskikh nauk SSSR professor
F.R.Bogdanov).

(Face--Surgery) (Plastics) (Surgery, Plastic)

SHCHIRKOVA, V. I. -- "Free Skin Plastic Surgery in the Maxillary-Facial Region." Sverdlovsk State medical Institute. Sverdlovsk, 1955.
(Dissertation for the Degree of Candidate in Medical Sciences.)

So; 'Enislava Letopis' No 3, 1956

SHCHIPAKIN, G.M. (Chkalov)

Solving geometrical problems. Mat.v shkole no.3:32-41 My-Je '54.
(MLRA 7:6)

(Geometry--Problems, exercises, etc.)

BUDANTSEV, Petr Alekseyevich; SHCHIPAKIN, Grigoriy Mikhaylovich; LEPESHKINA,
N.I., redaktor; RYBIN, I.V., tekhnicheskii redaktor

[Quadratic and irrational equations] Kvadratnye i irratsional'nye
uravneniia. Moskva, Gos. uchebno-pedagog. izd-vo Ministerstva
prosveshcheniia RSFSR, 1956. 117 p. (MLRA 10:1)
(Equations, Quadratic)

BUDANTSEV, P.A.; SHCHIPAKIN, G.M.

Quadratic and irrational equations. Uch.zap.Chkal.gos.ped.inst.
no.9:323-426 '56. (MIRA 10:3)
(Equations, Quadratic) (Equations, Irrational)

Shchipakin, L. N.

PA 28119

USSR/Engineering
Radio Towers
Cranes

Jan 1947

"Mounting Metal Radio Towers of 250 Meters in Height,"
L. N. Shchipakin, Engr, Stal'konstruktsiya, 2 pp

"Stroitel'naya Promyshlennost'" No 1

The author has found experimental methods for mounting the new 250-meter radio tower are unsatisfactory, and presents his own method. He uses a crane for mounting the tower by sections.

BS

28119

SHCHIPAKIN, L.N., inzhener

Erecting a 205-meter metal radio mast. Stroi.prom.25 no.1:16-17
Ja '47. (MLRA 8:12)

1. Stal'konstruktsiya
(Radio--Apparatus and supplies) (Building)

SHCHIPAKIN, L.N., inzhener, laureat Stalinskoy premii; KOPP, L.M.,
inzhener

Engineering aspects of erecting precast reinforced structures.
Bet. 1 zhel.-bet. no.6:215-219 S '55. (MIRA 8:9)
(Precast reinforced construction)

SHCHIPAKIN, L.N., inzhener.

Over-all mechanization in building metallurgical plants. Stroi.
prom. 33 no.10:4-8 0 '55. (MLRA 9:1)
(Cranes, derricks, etc.) (Metallurgical plants)

KOPP, L.M., inzh.; SHCHIPAKIN, L.N., inzh.; KHOKHLOV, B.A., red.; KOVAL'CHUK, M.F., inzh., red.

[Instructions for the erection of steel structures (VSN-83-57 MSPMKhP SSSR)] Instruktsiia po montazhu stal'nykh konstruktsii (VSN-83-57/MSPMKhP SSSR). Moskva, TSentr. biuro tekhn.inform., 1957. 83 p. (MIRA 11:6)

1. Russia (1923- U.S.S.R.) Ministerstvo stroitel'stva predpriyatiy metallurgicheskoy i khimicheskoy promyshlennosti.
2. Proyektnaya kontora "Promstal'konstruktsiya" Glavstal'-konstruktsii Minmetallurgkhimstroya SSSR (for Kopp, Shchipakin).
3. Glavnyy inzhener Glavnogo upravleniya po proizvodstvu i montazhu stal'nykh konstruktsiy (for Khokhlov)
(Building, Iron and steel)

SHCHIPAKIN, L.N., otv.red.; MASLOV, M.F., inzh., zam.otv.red.; GITMAN,
I.B., red.; SOKOLOVA, A.D., red.; SHNEYDEROV, R.G., red.

[Assembly of structural elements] Montazh stroitel'nykh
konstruktsii. Moskva, TSentr.biuro tekhn.informatsii, 1958.
32 p. (MIRA 14:4)

1. Moscow. Gosudarstvennyy proyektnyy institut "Promstal'-
konstruktsiya." 2. Proyektnyy institut Promstal'konstruktsiya
(for Maslov).
(Aluminum, Structural)

SOV/ 100-58-3-4/8

AUTHOR: Shchipakin, L.N. Engineer.

TITLE: New Assembly Cranes. (Novyye montazhnyye krany.)

PERIODICAL: Mekhanizatsiya Stroitel'stva, 1958, No.3, USSR, Pp 17-22

ABSTRACT: Criticism is made of assembly cranes: BK-102; BK-151; BK-406 and BK-404 with lifting capacities of 10, 15, 25 and 40 tons respectively which do not run efficiently enough for modern building conditions. In 1957 the Promstal'konstruktsiya of Minstroy of RSFSR designed and constructed new assembly cranes SKU-101, BK-300 and BK-1425 with capacities of 10, 25 and 75 tons respectively which complied with the requirements of contemporary building techniques. Technical data of crane SKU-101 is given in Table 1. Figure 1 illustrates diagrammatically the stages of assembly of the crane. The crane is designed for the assembly of precast constructions for multi-storey buildings up to 45m high. The total weight is 61tons. Figure 2 illustrates the unloading stages from railway trucks of crane SKU-101. The prototype of this crane was completed in 1957 by the Ramensk factory. The designer is M.P. Khodov. Crane BK-300 with a capacity of 25 tons is a substitute for crane BK-151. Technical data of this crane is given in Table 2. Figure 4 illustrates the crane and graphs showing the lifting capacity. Figure 5 illustrates the stages of assembly of the

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New Assembly Cranes

crane BK-300 by a self-lifting method. Crane BK-1425 is the most powerful of all with a capacity of 25-40 tons at an arm length of 16-24m and has the highest load moment ratio of 600tm. In 1956 it was necessary to design a crane with even greater capacity to handle the large blast furnaces with a volume of 1,700-2,200m³. These cranes were designed to lift up to 75 tons. Figure 6 illustrates the crane and gives load bearing diagrams. The designers of this latter crane are J.B. Gitman and M.P. Khodov. There are two tables and six figures.

AVAILABLE: 1. Construction equipment-Design--USSR 2. Hoists--Design
3. Hoists--Applications

Card 2/2

SHCHIPAKIN, L.N., inzh.

Using gantry cranes in assembling and building. Nov. tekhn. i oered.
op. v stroi. 20 no. 8:24-27 Ag '58. (MIRA 11:7)
(Cranes, derricks, etc.)

SHCHIPAKIN, L.N.; SHERMAN, L.N.

Marking foundations for sinking sectional piles. Stroi. prom. 36 no.1:
43-114 Ja '58. (MIRA 11:1)

(Foundations) (Pile driving)

GITMAN, I.B., inzh.; SHCHIPAKIN, L.N.

The BK-1425 assembly tower crane with the lifting capacity of
75 t. Nov.tekh.mont.i spots.rab.v stroi. 21 no.9:5-10
S '59. (MIRA 12:11)

1. Proyektnyy institut Promstal'konstruktsiya.
(Cranes, derricks, etc.)

S/100/60/000/003/002/003
A053/A026

AUTHORS: Khodov, M.P.; Shchipakin, L.N.; Engineers

TITLE: All-Purpose Self-Propelled Tower-Boom Cranes

PERIODICAL: Mekhanizatsiya Stroitelstva, 1960, No. 3, pp. 9 - 14

TEXT: The article describes a number of new self-propelled mobile cranes using standard units and a combined tower-boom equipment. The Designing Institute Promstal'konstruktsiya has done a great deal of development work in creating all-purpose cranes, which combine the advantages of tower and of boom cranes. They consist of a boom, which either stands up vertically or at a slight incline, and an extending beak hinged to the boom, so that it can be maneuvered by means of a tackle block, which regulates the extension of the beak, and also serves to fold and lower boom and beak to a horizontal position. A caterpillar tower-boom crane or the CKP-30 (SKG-30) class is shown. This particular crane has a lifting capacity of 7.5 tons and a height of over 55 m. The turning platform with all its mechanisms and power installation forms one unit, which can be mounted on a number of different types of cranes mounted either on tires, or on rails with a variety of equipment. The standardization of this unit contributes toward a greater

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S/100/60/000/003/002/003
A053/A026

All-Purpose Self-Propelled Tower-Boom Cranes

versatility of this kind of cranes and to a reduction of production costs. Depending upon the particular service for which a crane is intended, the design of boom and beak equipment is altered, giving higher and longer extension, or less extension and greater lifting capacity. The technical characteristics of the caterpillar crane SKG-30/10 are as follows: Maximum load lifting capacity 30, 20 and 15 tons for booms 15, 20 and 25 m long, and 10 tons for booms of 25 m with beak of 20.85 m; speed of lift 18 - 9 m/min; revolving speed of crane 0.7 m/min; speed of crane movement 0.7 km/h; Diesel engine 100 hp; Generator 50 kw, weight of crane with 15 m boom 61.4 tons. The article gives the technical characteristics of the cranes SKG-50 and SKG-75 for 50 and 75 ton lifting capacity. A new crane CK-300 (SK-300), for building purposes is at present being worked on: it has the same turning platform and boom equipment as the SKG-50 and is mounted on a RR platform with two standard 2-axle carriages and a special intermediate platform with a monorail carriage. During operation the crane rests on 3 rails; in transit, when the crane is incorporated in a train formation, the intermediate platform is turned together with the crane at an angle of 90° and placed along the RR platform, after previous release of the monorail carriage. Upon arrival on the site it takes 2 - 3 days to assemble the crane to operating condition, as compared with 20 - 25 days required for assembly of a corresponding tower crane BK-300 (BK-300). The principal advantage of the tower-boom cranes consists in the possibility of

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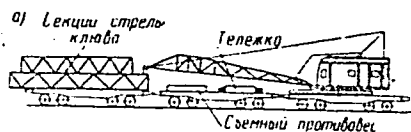
All-Purpose Self-Propelled Tower-Boom Cranes

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A053/A026

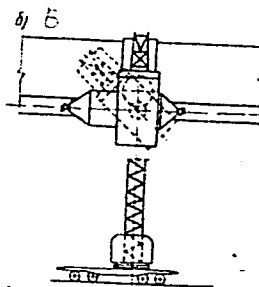
carrying out from beginning to end the entire complex assembly work, starting with the heavy elements on low and medium heights and finishing with the comparatively lighter elements at great heights. They are also easier to be transported and assembled than tower cranes. Cranes of the class SKG are transported on trailers in three sections. (Fig. 6) The tower-boom cranes have a Diesel-electric power equipment with the possibility of taking power from outside sources. It can be anticipated that tower-boom cranes will meet with a great demand in future. There are 6 figures and two tables.

Figure 6: Transportation and assembly of Crane SK-300

A) crane in position for RR transportation



B) intermediate platform with crane



Card 3/5

SHCHIPAKIN, L.N., inzh.; KOPP, L.M., inzh.

Content of work plans. Mont. i spets. rab. v stroi. 25 no.5:
23-24 My '63. (MIRA 16:7)

1. Institut Promstal'konstruktsiya.
(Construction industry---Production methods)

MOYZHES, B.Ya., inzh.; SHCHIPAKIN, L.N., inzh.; KAPLIN, A.A., inzh.

Assembly of structural elements at a standard converter plant.
Mont. i spets. rab. v stroi. 25 no.11:13-18 N '63.

(MIRA 17:1)

1. Proyektnyy institut Promstal'konstruktsiya i trest Uralstal'-
konstruktsiya.

Shchipakin, M. I.

621.311.18 : 621.316.925

608. Application of automatic closing of reserve supply in auxiliary circuits of power stations. M. I. SHCHIPAKIN. *Elektr. Stantsii*, 1954, No. 8, 35-8. in Russian.

On interruption of the power supply to the station auxiliaries, a voltage reduction relay automatically connects them to alternative supply busbars. Tests were made on the performance of the auxiliaries of 120 atm. boilers of 100-160 t/h output. The time elapsed between switching on the new supply and gaining normal speed again was measured in 4 different tests. Oscillograms are shown for the

different types of motor drives. After short interruptions, the small-inertia drives recovered more quickly, after longer interruptions the high-inertia drives, the time for regaining normal speed being of the order of half the starting time from standstill.

F. BUSEMANN

SHCHIPAKIN, V.P., inzh.

On the appropriate shape of deep drainage canals. Nauch.
zap. MIIVKH 22:229-238 '60. (MIRA 13:8)
(Drainage)